INSTRUCTIONS FOR OPERATING

THE DE VRY TRIPLE-CLAW TYPE PROJECTOR

DE VRY CORPORATION

1111 Armitage Avenue. Chicago, Illinois.

New York Chicago Hollywood

INSTRUCTIONS FOR OPERATING

CURRENT SUPPLY

The DeVry triple-claw projector may be operated on either A.C. or D.C. 110 volt current. Note, however, that the projector power cord is separate from that of the amplifier. This cord may be plugged into current of any frequency.

The amplifier, however, will function only on standard 50 to 60 cycle, 105 to 115 volt, alternating current. If only D.C. is available, a small rotary converter (which we supply) must be used for obtaining the amplifier supply from D.C. mains.

In this case, only the Projector Power Cord is to be plugged into the outlet ....110 V. D.C. If, however, only 25 cycle A.C. is obtainable, the equipment will have to be ordered special, as the electrical apparatus must then be of a special construction. It should be remembered, too, that 25 cycle equipment will operate on 60 cycle supply, although, of course 60 cycle equipment will not operate on a 25 cycle supply.

SETTING UP THE TRIPLE CLAW PROJECTOR.

The first step is to place the projector on top of the metal plates of the amplifier (i.e., ends of the metal shell of the amplifier case). The legs of the projector are placed upon the rubber cushion pads on both ends of amplifier. The projector may be subsequently raised or lowered by loosening knobs 18 and 33. The projector is simply raised or lowered to the position desired; then the knob is again tightened.

The Mazda projector lamp is packed separately. To instell, proceed as follows: (a) Remove lamp-house cover 4. Insert Mazda in its socket in lamp-house. Note that there are two flanges on base of Mazda, one larger than the other. Place larger flange in its corresponding niche in socket. Then press lamp firmly downward, and give it a quarter turn to the right.

The next procedure is to insert amplifier tubes in their respective sockets. Observe the markings on each tube, and place it in its corresponding socket.

The photo cell comes packed separately. Remove it, and place it in its socket. (Before inserting it in position the metal cap 8 used to enclose the photo-cell is removed). The four prongs in the base of the photo-cell are placed in their respective receptacles, and the tube is then firmly pressed into position. Replace round photo-cell cap, making sure that the tiny notch in its side fits over the pin. If this is not done,

the light from the exciter lamp supply will not "hit" photo-cell properly. CAUTION: The photo-cell must be seated in its socket tightly - i.e., pressed in all the way. Looseness will cause undesirable sound-distortion.

EXCITER LAMPS

The DeVry Triple-Claw projector (as all DeVry 16mm. projectors) comes furnished with double, auto-change exciter lamps, 36, 37 and 38. These are both properly set and adjusted before the projector leaves the factory, and should require no adjustment whatever. For information on adjustment, in emergency cases, see p.5-. Replacing Exciter Lamps.

"PLUGGING IN" PROJECTOR AND AMPLIFIER.

If silent films are to be shown, no amplifier will, of course, be used and you will also disregard instructions regarding the photo-cell cable. For silent film-showings, the projector only need be used.

To connect amplifier with projector, for sound-film projection, first open inspection door on driving-mechanism side of projector*. Remove photo-cell cable 19 placing it through the hole at the bottom of the driving mechanism side of the case on driving-mechanism side, then close inspection door. Next plug photo-cell cable in its socket in the amplifier, marked "projector" 25.

The projector power cord, leading from the main current source is next plugged into the socket at the rear of the projector 35

The amplifier cord, which is led from the speaker to the amplifier is plugged into its proper receptacle. Placement of the speaker, and sound control will be discussed fully on page 5.

THREADING THE PROJECTOR

First: Remove both reel arms, after opening small door, 13 at front of projector. Reel arms will be locked in place automatically (To replace reel arms in projector, when dismounting, pull out plungers on both upper and lower reel arms) 11.

Second: Place full reel of film on upper reel arm spindle, with emulsion; or dull side, coming from the front of the reel 10, or outside. If the film is properly wound, the sound track edge is away from the operator, and the perforations toward the operator.

*The various sides of the projector are defined as follows: Front - the side from which picture is projected; Operating side - side on which the operator stands, or film is threaded; Driving mechanism-side - opposite to operating side or side which contains gears and other driving mechanism; Back-side which contains illuminated dials.

Third: Press idler-release button, 3, and pull idler down away from the sprocket. Next pass the film over roller and down under the sprocket; then, making sure that the film is properly engaged in sprocket teeth, close the idler. Note: Do not force idlers open or closed - use idler-release button.

Fourth: Press button 7 pulling lens tube and gate forward, thus opening the aperture gate, 1. Pass film through this gate, leaving a generous loop, 41 as shown in the illustration. Film must lie flat and evenly in aperture groove.

Fifth: Slide lens tube and gate backward, closing aperture gate on film. Test film, to make sure it is properly engaged in aperture by pulling from both above and below.

Sixth: It is important, at this point, that the proper lower loop be left. Consult the illustration for a "picture", of the general appearance of the loop. Too short, or too long a loop will cause sound of film to be out of synchronization with the picture.

Seventh: Pull roller shown at 6, away from sound-drum cylinder 14, then pass film under roller and over this drum, down between filter roller, 16 and 17. It is next led up and over sprocket 15.

Eighth: Press idler-release button at 12, to release idler, then lead the film over the sprocket, closing the idler securely after making certain that the film has been properly engaged in sprocket teeth. From this point the film is passed directly to the takeup reel 20. Slack is taken up, after film has been engaged in hub of the reel. (Film may be engaged simply by placing end in slot provided).

TO TEST THREADING OF PROJECTOR

Turn projector motor on and off intermittently, or turn motor knob, 34. Notice whether or not film is running properly through sprockets and aperture. Note also appearance of lower and upper loops. These should retain their same shapes - i.e., lower loops should not become larger, nor upper loop smaller. Projector is now ready for operation.

USE OF CONTROLS (AT REAR OF PROJECTOR)

Note that the rear of the projector contains the following switches and controls: (1) Projector switch: (2) Lamp switch: Note: The silent speed control is to be used for projection of silent films, the sound speed, of course, for sound films is on main projector plate - not shown in picture as this is a late development.

PROJECTING SOUND PICTURES

First: Turn on the amplifier switch, 21, and allow amplifier tubes to warm up for about one minute.

Second: Turn up amplifier volume to approximately #20 position on volume control indicator 29. It is best to test the volume in advance of actual projection, noting the setting of the volume control indicator. Conditions of the room in which the show is to be given, acoustics, size of room and other factors will be instrumental in determining the projector volume-level.

Third: Set tone-control 27, at point which seems to give the best results for the room used. Again, some experimentation is necessary, and of course, room conditions are also instrumental in determining best setting of tone-control. In almost empty rooms and with poor acoustics, sound-reverberation may be noticeable. In such cases, ordinarily it is best to set indicator at "Hi" keeping the volume control at a fairly low setting. During the picture projection it is a good idea to re-adjust the tone control, to suit actual conditions. Some sound sequences, too, may be improved by slightly turning the knob toward "Hi" or toward "Lo" as the case may require. Practice is necessary to establish a good "ear for sound".

Fourth: Turn on projector motor-switch before the lamp-switch, allowing a fraction of a second for the projector to assume its normal operating speed.

MISCELLANEOUS INSTRUCTIONS

A. Placing of Speaker: If the perforated type of sound screen is to be used, the speaker should be placed directly behind the screen, in the center, and a few feet away from the floor. If the usual type screen is employed, place speaker preferably beneath the curtain, or to one side or above. directing it towards the center of the audience. The speaker cord is to be plugged into the receptacle at 32.

B. Using Amplifier as a Public Address System: Sockets for microphone and phonograph are shown at 22 and 23. Volume control knob, just as with sound projection may be used to regulate volume of either microphone or phonograph.

NOTE: SHOULD THE OPERATOR WISH TO RUN A SOUND FILM, BUT TO SUPPLY A NEW VOICE COMMENTARY ....PHOTO CELL PLUG SHOULD BE REMOVED FROM SOCKET 25. THIS PLUG SHOULD ALSO BE REMOVED IF A SILENT FILM IS TO BE RUN WITH "MUSICAL ACCOMPANIMENT" BY PHONOGRAPH, OR WITH MICROPHONE COMMENTARY.

C. Replacing Exciter Lamps: The double, auto-change, exciter lamps, furnished with the DeVry triple-claw projector, is an exclusive feature with all DeVry 16 mm sound projectors. IT IS NOT NECESSARY TO STOP A SHOW IN ORDER TO REPLACE AN EXCITER LAMP. "Replacement" is accomplished as follows:

Should an exciter lamp burn out during the performance, loosen distending thumb screw, 36, Then push or pull the exciter lamp assembly-in order to bring the new lamp into position. Then tighten distending thumb screw. CAUTION: BE SURE TO MOVE EXCITER LAMP ASSEMBLY ALL THE WAY. Do not jar violently in moving, as this might affect focusing of one or both of the exciter lamps. The burned out exciter lamp may be replaced at leisure.

D. Installing New Replacement Exciter Lamps: To install a new exciter lamp, remove the screw, 37 then plate 38. Remove burned out lamp, and insert a new one, making certain that its filament is in proper alignment - i.e., at right angles to the film and parallel with sound track. Next, tighten the clamp screw, and replace the cover. Note: When inserting new exciter lamp, make sure that it is pushed in all the way, and that it is properly seated in its socket.

E. Replacing burn-out Fuse: The amplifier is protected against voltage increases (from current supply), possible "shorts" and the possibility of an operator's inadvertently plugging the amplifier into D.C. supply without having first attached the converter. Should the amplifier tubes fail to light, with power-cord plugged in, investigate the fuse. It is located under the removable cover, shown 31. In an emergency this fuse may be replaced by the conventional 4-ampere automobile fuse. DO NOT USE A HIGHER AMPERAGE FUSE.

F. Adjustment of Exciter lamps: The following steps are followed to adjust exciter lamps for maximum efficiency. (As already pointed out, adjustment is rarely necessary, as both lamps have been properly pre-set when machine left factory): (1) Move exciter lamp assembly to that position which causes the lamp needing adjustment to light (2) Note that on each end of the bracket, which hold exciter lamp assembly, there is an adjustable stop screw, and a lock nut. (39 and 40). (3) Now loosen the lock-nut, then adjust its corresponding stop screw, until-with the exciter lamp assembly firmly against this top screw - the maximum amount of light is transmitted through the optical tube into aperture located in the top of sound drum.

CAUTION: DO NOT ATTEMPT TO ADJUST THE OPTICAL TUBE ITSELF.

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SUGGESTIONS FOR BETTER SHOWS

The DeVry Triple-Claw Sound Projector has been built to give long and efficient service, and the maximum in high-quality sound projection. However, the proper use of 16 mm sound equipment is an important factor in assuring good shows. Upon the operator depends to a large measure, the effectiveness and quality of his performances.

Here are a few simplet suggestions which will enable you to keep your DeVry Triple-Claw Projector in tip-top condition, and to give professional quality shows.

A new type of self-cleaning sound head aperture is now employed on the triple-claw projector. It is therefore not necessary to clean the soundhead, excepting in such rare cases as when abnormally large obstructions are observed. The aperture should however, be frequently cleaned with a soft cloth or camel-hair's brush. Lenses should be carefully cleaned before each show. Use a soft cloth for this purpose or a sheet of Kleenex.

The oiling-tubes, A,B,C,D,F and F on operating side of the machine need occasional, but not frequent oiling. Add but a few drops to each of these tubes - which can easily be identified by their red markings after every 10 or 12 showings, and a little more often if the showings are far apart.

The type and condition of the room in which shows are given is an important element. If possible avoid rooms with large "barny" structure, with many obstructions, and "hard" walls. These tend to cause reverberation and unpleasant harshness.

ADDITIONAL REFERENCES

#2 - Pilot lamp should be turned off while running sound film.

#5 - Framing knob push up or down for proper adjustment of picture on screen.

#9 - Sound drum set screw, factory adjustment.

#22 - Knob to adjust for sound film, microphone and phonograph uses.

#26 - Additional photo cell receptacle

#28 - Set screw to increase photo cell output to be increased only occasionally. Very little at a time. Too much will destroy photo cell.

#30 - Speaker cord receptacle.

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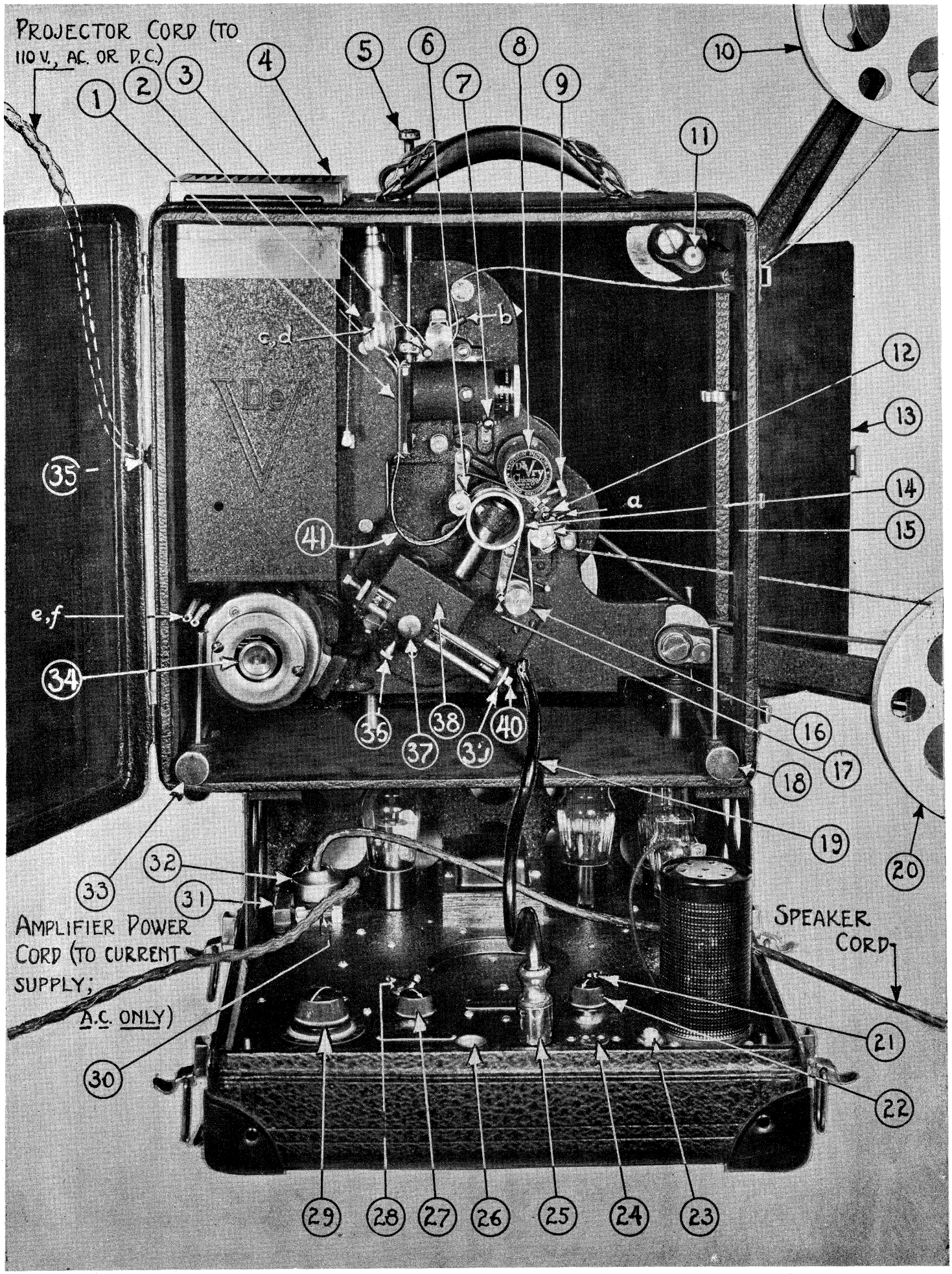
PROJECTOR CORD (TO 110 V., AC. OR D.C.)
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AMPLIFIER POWER CORD (TO CURRENT SUPPLY; A.C. ONLY)
SPEAKER CORD